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Writing Sample Excerpt

This comment was published in the University of San Diego Journal of Climate and Energy law and is entirely my own work. I make the argument that federal hydroelectric regulation must be reassessed. Novel research demonstrated that hydroelectric facilities can significantly contribute to greenhouse gas emissions. Federal regulation governing planning and operation of current and proposed facilities require such emissions to be accounted for nor mitigated. My comment takes the position that hydroelectric facilities can substantively contribute to a carbon-free future, but to do so proper regulations must require consideration and mitigation of emissions from such facilities.

B.	<i>Increased Use of Mitigation Methods</i>	000
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I. INTRODUCTION

From its early use as kinetic power to kick start the industrial revolution,¹ a consensus emerged that hydroelectric power is clean, renewable, and reliable.² In contemporary parlance it is universally classified as either “carbon free”³ or “low-carbon.”⁴ The history of hydropower in the United States supports this belief, and its use has rarely been scrutinized.⁵ However, an emerging consensus indicates scrutiny is necessary (for hydroelectric power and other energy sources avoiding acute assessment) given the challenges foisted upon us by anthropogenic climate change.⁶

This Article will put the standard hydropower consensus to task and analyze whether it holds water as a resource that can be heavily relied upon in a clean energy transition. First, a review of the United States’ history with hydropower will summarize the construction of a ubiquitous pro-power narrative that pervaded hydroelectric conversations well into the 1970s. A narrative that has recently found favor again as the global community seeks a path to avoid the worst effects of climate change. Second, this Article will discuss the nascent scientific consensus around the impact of twentieth and twenty-first century proliferation of hydropower and river impoundments. Third, this Article will explore current federal legislative tools available to account for and mitigate future impacts, including suggestions to amend current legislation to require analysis of hydroelectric impact on

1. See U.S. DEP’T OF ENERGY, HYDROPOWER VISION: A NEW CHAPTER FOR AMERICA’S 1ST RENEWABLE ELECTRICITY SOURCE 73 (2016), <https://www.energy.gov/sites/default/files/2018/02/f49/Hydropower-Vision-021518.pdf> [<https://perma.cc/DT94-7YF7>].

2. *Id.* at 7.

3. Malcolm Wolf, *The Path to Carbon Free Flows Through Hydropower*, THE HILL: CONG. BLOG (Oct. 22, 2019, 5:30 PM), <https://thehill.com/blogs/congress-blog/energy-environment/466938-the-path-to-carbon-free-flows-through-hydropower> [<https://perma.cc/VV76-H8X3>].

4. U.S. DEP’T OF ENERGY, *supra* note 1, at 1.

5. See Kavya Balaraman, *100+ Hydro Plants Have Greater Warming Impact Than Fossil Fuels: EDF Study*, UTILITYDIVE (Nov. 19, 2019), <https://www.utilitydive.com/news/hydropower-emissions-fossil-fuels/567572/> [<https://perma.cc/T4QR-EP2T>].

6. Ilissa B. Ocko and Steven P. Hamburg, *Climate Impacts of Hydropower: Enormous Differences Among Facilities and Over Time*, 53 ENV’T SCI AND TECH. 14070 (2019); Philip Fearnside, *Greenhouse Gas Emissions from Hydroelectric Dams: Controversies Provide a Springboard for Rethinking a Supposedly “Clean” Energy Source*, 66 CLIMATIC CHANGE 1, 5 (2004).

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climate change. Finally, this Article will analyze national policy regarding prospective development and reliance on hydropower.

*A. Building the Curtain: Development of the United States
Hydroelectric Industry*

Deployment of natural river streams as power-generating mechanisms is an ancient technology.⁷ Hydroelectric technology has been harnessed over centuries, resulting in structural behemoths such as the Grand Coulee and Hoover Dams. Primitive models of hydroelectric power came into existence in the early eighteenth century. These models used run of the river water wheels to harness the kinetic power of flowing water for early industrial manufacturing.⁸ Mechanical developments advanced in the late nineteenth century, producing modern hydroelectric turbines and the hydroelectric plant's progenitors.

The science is straightforward; streams are interrupted by an impoundment that floods the upstream riparian area to create a reservoir called the "head."⁹ Headwater is then released downward through the dam, creating a "flow" into a powerhouse which contains a turbine spun by the passing water.¹⁰ This process powers an electric generator connected to power lines transporting electricity to consumers.¹¹

Simple yet powerful, this mechanism has yielded significant electricity generation capacity when operated at scale. By 1912, hydroelectric power accounted for thirty percent of the United States electricity market.¹² Up to 1912, hydroelectric development went largely unregulated, controlled by only two narrow federal statutes: (1) the Rivers and Harbors Appropriation Act of 1899, which subjected impoundments on navigable streams to Congressional approval;¹³ and (2) the Reclamation Act of 1902 which created the Bureau of Reclamation and empowered the agency to develop federal hydroelectric impoundments in the American West.¹⁴

7. *Hydropower Program: The History of Hydropower Development in the United States*, BUREAU OF RECLAMATION (Feb. 3, 2016), <https://www.usbr.gov/power/edu/history.html> [<https://perma.cc/7D8D-BSQT>].

8. U.S. DEP'T OF ENERGY, *supra* note 1, at 75.

9. *Id.* at 76.

10. *Id.*

11. U.S. DEP'T OF ENERGY, *supra* note 1, at 76, 78.

12. U.S. DEP'T OF ENERGY, *supra* note 1, at 75.

13. *Id.* at 92.

14. *Id.*; see also BUREAU OF RECLAMATION, *supra* note 7.

1920 saddled the first substantive hydroelectric development regulations with the Federal Power Water Power Act (“FWPA”), amended in 1935¹⁵ as the Federal Power Act (“FPA”). The FPA established the Federal Power Commission¹⁶ to coordinate a unified planning and regulatory mechanism for hydroelectric development throughout the United States.¹⁷ Once reorganized and established as the Federal Energy Regulatory Committee (hereinafter “FERC” or “the Commission”), FERC took on the role of mandating the issuance of licenses

[F]or the development. . . and utilization of power . . . [which] in the judgement of the commission will be best adapted to a comprehensive scheme for improving or developing a waterway. . . for the benefit of interstate or foreign commerce, for the improvement and utilization of water-power development, and of other beneficial public uses.¹⁸

For over three decades after its inauguration, FERC treated this original mandate as an endowment of free reign to pursue pro-power interests. The Commission operated with a general disregard for its secondary mandate to consider “other beneficial public uses.”¹⁹ Running with its primary pro-power mandate, FERC impeded thousands of American rivers with impoundments and other generating facilities in just a few decades between the 1940s and 1960s.²⁰

After three decades of FERC’s unchallenged impounding of rivers in the United States, the country began to feel the adverse impacts of plugging rivers without due consideration of environmental effects.²¹ The golden era of dams ended as the rise of the environmental movement moved to the fore. Environmental activists exposed the considerable damage massive impoundments were having on riverine ecosystems due to ill-conceived development plans.²² The 1960s, 1970s, and 1980s brought a deluge of

15. See Federal Power Act, 16 U.S.C. § 792-828(c) (1935).

16. Federal Energy Regulatory Commission, 42 U.S.C. § 7171(a) (1977).

17. 16 U.S.C. § 797(e) (1935).

18. 16 U.S.C. §§ 797(e), 803(a) (1935).

19. J.R. DeShazo & Jody Freeman, *Public Agencies as Lobbyists*, 105 COLUM. L. REV. 2217, 2236 (2005); 16 U.S.C. §§ 797(e), 803(a) (1935).

20. U.S. DEP’T OF ENERGY, *supra* note 1, at 72, 76.

21. See Anna Lieb, *The Undamming of America*, PBS (Aug. 12, 2015), <https://www.pbs.org/wgbh/nova/article/dam-removals/> [https://perma.cc/33MP-8DQK].

22. See *id.*; See also *How Dams Damage Rivers*, AMERICAN RIVERS (2019), <https://www.americanrivers.org/threats-solutions/restoring-damaged-rivers/how-dams-damage-rivers/> [https://perma.cc/TYR5-ZBTL].

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federal legislation²³ and pro-environment federal court rulings,²⁴ furthering the adverse impact on hydropower.

Initial legislative attempts to regulate dam development sought to balance two central objectives. First, legislatures intended to ensure the continued growth of energy generation through hydropower. Second, legislators hoped to mitigate the adverse environmental impacts from future dam development. These statutes included the National Environmental Policy Act,²⁵ the Clean Water Act,²⁶ the Fish and Wildlife Conservation Act,²⁷ the Wild and Scenic Rivers Act,²⁸ and the Endangered Species Act.²⁹

Despite Congress taking superficially proactive measures to balance FERC's pro-power stance, power generation still ruled the day due to a confluence of factors, including the lack of intensive oversight, the oil embargo, and an energy crisis in the 1970s and 1980s.³⁰ As a result, environmental considerations took a back seat, though certainly in a better position than in previous decades. Pro-power trends continued into the 1980s until the enactment of the Electric Consumers Protection Act ("ECPA"), which amended the FPA, and forcefully redirected FERC to consider a range of environmental factors when licensing or relicensing publicly owned hydroelectric facilities. The ECPA required FERC to provide "equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of, fish and wildlife . . . the protection of recreational opportunities, and the preservation of other aspects of environmental quality."³¹

23. See *Environmental Policy in the United States*, BALLOTPEDIA, https://ballotpedia.org/Environmental_policy_in_the_United_States (last visited Oct. 31, 2021) [<https://perma.cc/8VHP-ZU8N>].

24. See also *Udall v. Fed. Power Comm'n*, 387 U.S. 428 (1967); see generally *Scenic Hudson Preservation Conference v. Fed. Power Comm'n*, 354 F.2d 608 (1965).

25. National Environmental Protection Act, 42 U.S.C. § 4231 et. seq. (1970).

26. Clean Water Act, 33 U.S.C. § 1251 et. seq. (2008).

27. Fish and Wildlife Conservation Act, 16 U.S.C. § 2901 et. seq. (1980).

28. Wild and Scenic Rivers Act, 16 U.S.C. § 1271 et. seq. (1968).

29. Endangered Species Act, 16 U.S.C. § 1531 et. seq. (1973).

30. See 7. *Hydroelectric Power in the 20th Century and Beyond*, NAT'L PARK SERV., <https://www.nps.gov/articles/7-hydroelectric-power-in-the-20th-century-and-beyond.htm> [<https://perma.cc/5FET-A3X8>].

31. 16 U.S.C. § 797(e) (1920); see DeShazo & Freeman, *supra* note 19, at 2253, 2262.

Upon the enacting of the ECPA, big dam and hydroelectric development in the United States drastically receded.³² Projects that were licensed or relicensed were subjected to nearly twice as many conditions.³³ Thereafter, the force of a quarter-century of environmental activism, court rulings, and federal legislation eventually began to pressure pro-power forces to accept responsibility for clotting the nation's riparian arteries. Few impoundments were erected in the following decades.

However, this comment is neither intended to lament the lapse of the faith in dams nor to hail environmental victories over big hydropower supporters. The true lament is that among the hundreds of dams decommissioned since the passage of the ECPA, greenhouse gas ("GHG") emissions remain unlisted as a cause for removal.³⁴ FERC, the Department of Energy, and other agencies responsible for dam development pursuant to the FPA regularly refer to hydroelectric development as "clean,"³⁵ "carbon-free,"³⁶ or "low-carbon."³⁷ While the latter is closer to the actual state of affairs, even "low-carbon" is not a global truth. That label's veracity is highly dependent on pre-development considerations of local hydrologic, riverine, riparian, and wildlife ecosystems.³⁸ Absent these considerations, negligently developed hydroelectric impoundments and dams possess the potential to significantly contribute to global carbon dioxide, methane, and nitrous oxide emissions.

II. EMERGING CONSENSUS: HYDROELECTRIC GENERATION IS NOT ALWAYS CLEAN ENERGY GENERATION

Decades of scientific consensus and news reports have laid bare the consequences of wealthy energy companies refusing to come to terms

32. See Philip Shabecoff, *After 85 Years, the Era of Big Dams Nears End*, N.Y. TIMES (Jan. 24, 1987), <https://www.nytimes.com/1987/01/24/us/after-85-years-the-era-of-big-dams-nears-end> [<https://perma.cc/M2M9-A4AM>].

33. DeShazo & Freeman, *supra* note 19, at 2227.

34. See generally, J. Ryan Bellmore et al, *Status and Trends of Dam Removal Research in the United States*, 4 WIRES WATER 1 (2017).

35. U.S. DEP'T OF ENERGY, *supra* note 1, at 2.

36. Wolf, *supra* note 3.

37. U.S. DEP'T OF ENERGY, *supra* note 1, at 1.

38. See Ocko & Hamburg, *supra* note 6, at 14070–71, 14079; see also Elizabeth A. Ingram, *Exploring Reasons Behind Dam Removal*, HYDRO REV., (Mar. 1, 2012), <https://www.renewableenergyworld.com/baseload/exploring-the-reasons-behind-dam-removal/#gref> [<https://perma.cc/5USE-XQVN>]; see also Yves. T. Prairie et al., *Greenhouse Gas Emissions from Freshwater Reservoirs: What Does the Atmosphere See?*, 21 ECOSYSTEMS 1058, 1058–63 (2018).

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with their investments' environmental consequences.³⁹ While it is clear that proliferation of hydroelectric impoundments has nowhere near the climactic impact of big oil, the hydropower industry suffers from the same cognitive mistakes that befell big oil companies.⁴⁰ No significant government agencies or officials, along with hydropower developers, have agreed about the extent to which hydroelectric power contributes to global GHG emissions. Ossified positions on this issue stem from a belief that hydroelectric power either does not emit GHG's, or if it does, it does so at a microscopic level relative to its energy generation. However, scientific research over the last two decades has eroded the belief that hydropower is always clean energy.⁴¹ Climate change is too invidious and evasive of a threat to allow anything besides hard data to prevail. And the emerging consensus indicates the pervasive conception of hydroelectric energy as even "low-carbon" is a circumstantial statement.⁴²

Reasons abound why the image of hydroelectric energy as an emissions producer can be so swiftly cast aside. In everyday life, dams never need to be considered. Stoking anger over climate change inaction toward the persistence of fossil fuel is much easier in that sense. Fossil fuels are ever-present. Gas stations are found on nearly every major street corner and fumes of smoke are a regular sight for cities in close proximity to oil refineries. In contrast, hydroelectric plants are hidden away. Most people never glimpse the unnatural behemoths fighting back millions of gallons of plugged-up river unless they are enjoying a weekend on the lake or fishing an out-of-the-way river. Even then, most will never witness a release indicative of fugitive gasses leaking from their surface. As with many societal issues, hydroelectric impoundment emissions fester below the surface and remain unacknowledged by the uninquisitive eye.

39. See Ove Hoegh-Guldberg et al., 2018: *Impacts of 1.5°C of Global Warming on Natural Human Systems*, Intergovernmental Panel on Climate Change, in GLOBAL WARMING OF 1.5°C 175, 177 (Jose A. Marengo, et. al. eds., 2018).

40. See Linda Ciocci, The Climate Registry: Electric Power Sector Protocol, Public Comment of Linda Ciocci Executive Director, Nat'l Hydropower Ass'n (2009) (unpublished comment) (on file with author) (arguing it would be a mistake and counterproductive to register hydroelectric reservoirs as fugitive emissions sources); see also U.S. DEP'T OF ENERGY, *supra* note 1, at 301, 303–05 (arguing measurement technology is not yet capable of making a dispositive decision as to the level of emissions).

41. See Fearnside, *supra* note 6, at 4–5.

42. Ocko & Hamburg, *supra* note 6, at 14070, 14079–80; see Prairie, *supra* note 38, at 1067.

Further, early studies on the theory that hydro-impoundments yield GHG emissions, such as those by Philip Fearnside of the National Institute for Research in the Amazon, were conducted on rivers far from the United States and in disparate climates from those experienced in the United States.⁴³ However, in 2004, Fearnside elaborated on research conducted in the 1990s, establishing early estimates of productivity and mechanisms of emissions from hydroelectric impoundments.⁴⁴ From his research came early signs that, unlike natural lakes and rivers, which produce negligible carbon dioxide emissions, once impeded by a dam, reservoirs produce significantly higher levels of carbon dioxide and methane.⁴⁵

Flooding large swaths of land for sustained periods results in organic decomposition.⁴⁶ Organic decomposition is a chemical process whereby organic matter and underground biomass are killed (terminating its capacity to absorb atmospheric CO₂). Microbial bacteria then decompose the matter releasing carbon dioxide and methane.⁴⁷ Fearnside measured these emissions, and estimated hydroelectric reservoirs contributed ten million tons of carbon dioxide at Brazil's major hydroelectric facilities alone.⁴⁸

Fearnside's findings have been repeated, refined, and substantiated.⁴⁹ Original studies failed to assess factors in hydroelectric development and the pro-power lobby could placate fears of significant emissions in the United States.⁵⁰ More recent studies have assessed the contributors to high emission dams and determined which climatic, ecological, and structural factors tend to result in significant emissions, and quantify the level of emissions produced.⁵¹ Generally, contributors to direct emissions include geographical location, temperature, precipitation, submerged vegetation characteristics, net primary productivity,⁵² age, area, volume, depth, and

43. See generally Fearnside, *supra* note 6, at 1.

44. See *id.* at 4.

45. *Id.* at 2–4.

46. Vincent St. Louis et al., *Reservoir Surfaces as Sources of Greenhouse Gases to the Atmosphere: A Global Estimate*, 50 *BIOSCIENCE* 766, 766 (Sept. 2000).

47. See *id.* at 766–67.

48. Fearnside, *supra* note 6, at 4 (indicating greater emissions rates in tropical climates).

49. St. Louis et al., *supra* note 46, at 768–71; Ocko et al., *supra* note 6, at 14070–71.

50. See Nat'l Hydropower Ass'n Membership Directory, NAT'L HYDROPOWER ASS'N (June 2020), <https://www.hydro.org/membership/members-directory/> [<https://perma.cc/FUS7-G43P>].

51. See William Steinhurst et al., *Hydropower Greenhouse Gas Emissions: State of the Research*, SYNAPSE ENERGY ECON. INC., 13 (Feb. 14, 2012); Ocko et al., *supra* note 6, at 14070–14071.

52. Prairie et al. *supra* note 38, at 4–7 (describing river processes of naturally emitting carbon dioxide before impoundment construction and explaining that pre-impoundment emissions should be deducted from post-impoundment emissions to reach a reasonable conclusion of anthropogenic emissions).

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extent and duration of water level fluctuations.⁵³ Had the pro-hydropower lobby promoted consideration of these siting factors, a significant portion of impoundment emissions could have been mitigated.

Recent studies indicate the level of expected emissions depends upon a confluence of the various factors mentioned above. These results cast a shadow over current policies favoring reinvestment in hydroelectric development. Synapse Energy Economics, an energy research and consulting firm, recently estimated that, although the variability in emissions between hydropower plants is immense, Fearnside's theory holds water regarding hydroelectric development in the United States.⁵⁴ Synapse estimated run of the river reservoirs emit between 0.5 and 153 kg CO₂eq/MWh (carbon dioxide equivalent GHGs produced per megawatt-hour of electricity generated), and newly flooded boreal reservoirs emit between 160 to 250 kg CO₂eq/MWh.⁵⁵ A far cry from newly flooded tropical reservoirs, which show signs of 1,300 to 3,000 kg CO₂eq/MWh.⁵⁶ These findings should not be disregarded especially considering they reflect conservative estimations of emissions potentials.

It is essential to determine the increase in emissions after impoundment development compared to waterway emissions in their natural state, without impoundments.⁵⁷ This determination would yield a gross and net emissions calculation identifying the emissions attributable to the proliferation of impoundments, thereby dispensing the unproductive counterpoint that all waterways have some emissions potential.⁵⁸ This complicated process has been the scapegoat of those with a pro-power agenda at the cost of environmental precaution.⁵⁹

Researchers have provided guidelines for how to produce accurate GHG emission estimates. Yves Prairie, the Global Environmental Change Chairman at UNESCO, argues accurate calculations are reached by first quantifying pre-impoundment carbon dioxide emissions from organic carbon,

53. Ocko & Hamburg, *supra* note 6, at 14070–71; see Steinhurst et al., *supra* note 51, at 13; see also Hyojin Jin et al., *Enhanced Greenhouse Gas Emission from Exposed Sediments Along a Hydroelectric Reservoir During an Extreme Drought Event*, 11 ENV'T RES. LETTERS, at 2 (2016).

54. Steinhurst et al., *supra* note 51, at 2, 9.

55. Steinhurst, *supra* note 51, at 2.

56. *Id.*

57. Ocko & Hamburg, *supra* note 6, at 14070–71.

58. Prairie et al, *supra* note 38, at 3, 8.

59. U.S. DEP'T OF ENERGY, *supra* note 1, at 301, 303–05; Wolf, *supra* note 3.

decomposed vegetation, and sediment in the run of the river.⁶⁰ Prairie would discount these pre-impoundment emissions as a product of natural ecological systems.⁶¹ However, an increase in emissions from submerged surface area post-impoundment should count toward overall emissions.⁶² Prairie used this method to conclude that twenty-five percent of river produced carbon dioxide emissions are attributable to development of impoundments. However, he concluded that all methane emissions are anthropogenic.⁶³ Accordingly, hydroelectric impoundments remain well within the substantial net emissions category.

The Environmental Defense Fund conducted a study in 2019 which demonstrated that average hydroelectric GHG emissions are eight to thirty times greater than that of nuclear, solar, and wind GHG emissions.⁶⁴ However, hydroelectric emissions do fall short of coal and natural gas GHG emissions.⁶⁵ Strikingly, within the initial years after hydroelectric development, when organic decomposition is the strongest, hydroelectric reservoirs produce between thirty-five and forty percent of natural gas and coal emissions.⁶⁶

It is essential to keep in mind the “carbon free” context that interested parties have pushed from the Department of Energy to the National Hydropower Association. While one can engage in a semantic argument that, unlike fossil fuels, the actual production of power does not cause emissions, the stakes at issue are too far-reaching and devastating to entertain this. Hydroelectric power is not “carbon-free,” nor is it universally “low-carbon.”

More destructive than the levels of carbon dioxide are high global warming potential (“GWP”) emissions including methane and, to a lesser degree, nitrous oxide.⁶⁷ The presence of these gasses has been theorized since Fearnside’s 1990’s studies; More recent studies by Fearnside and other researchers, including Prairie’s, have solidified their early premise.⁶⁸

Synapse in 2012, Bridget Deemer in 2016, and Ilissa Ocko in 2019 (researchers who in three separate studies analyzed hydroelectric emissions)

60. Prairie et al., *supra* note 38, at 5; *contra* Jin et al., *supra* note 53, at 5, 8 (establishing that fluctuating water levels result in increased CO₂ emissions from pre-impoundment levels).

61. Prairie et al., *supra* note 38, at 5.

62. *Id.* at 7–8.

63. *Id.* at 8.

64. See Ocko & Hamburg, *supra* note 6, at 14073–74.

65. *Id.* at 14074.

66. *Id.*

67. Steinhurst et al., *supra* note 51, at 6; Bridget R. Deemer et al., *Greenhouse Gas Emissions from Reservoir Water Surfaces: A New Global Synthesis*, 66 *BIOSCIENCE* 949, 949 (Nov. 2016) (discussing the harm of nitrous oxide).

68. Fearnside, *supra* note 6, at 4–5; Prairie et al. *supra* note 38, at 4–10.

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conducted studies that indicate significant potential for methane emissions from hydroelectric reservoirs in various climates.⁶⁹ Establishing methane emissions calculations is vital because methane traps seventy-two times more heat per kilogram than carbon dioxide in the first year after emission.⁷⁰ Presence of considerable methane emissions makes the necessity of progressive action on this issue even more dire. Most climate action plans in the United States and the world have established short-term targets, which they seek to achieve by 2025, 2030, or 2040.⁷¹ Regardless of whether remedies are established at the source, if an effort is not made to account for such fugitive emissions, achieving those objectives will constitute pyrrhic victories.

Given the scientific consensus on current emissions levels, responsible agencies must make an effort to account for the GHG emissions produced by hydroelectric reservoirs. Even if Prarie's conservative allocation for carbon dioxide emissions is relied upon, it is vital that such emissions be acknowledged. Failure to do so results in overall misleading GHG emissions estimates and mitigation targets. This problem also has potential to be exacerbated by the impending, worsening effects of climate change. Separate Studies conducted by Hoyin Jin of Ewha Woman's University, Seoul Department of Environmental Science and Engineering, and Ulf Malfast of Leipzig's Helmholtz Center for Environmental Research reached similar conclusions, the effects of climate change exacerbate emissions. Both studies found that anthropogenically aggravated drought conditions will result in increased emissions from impounded rivers.⁷²

Along with the aforementioned emissions sources, degassing and ebullition, sediment build-up trapped by impoundments act as a methane storage facility. As sediment lifted by streams settle in a dam's headwater, it brings down methane released from decomposed biomass with it.⁷³ Logically this would seem beneficial in the short run as it limits the quantity

69. Steinhurst et al., *supra* note 51, at 12; see Deemer et al., *supra* note 67, at 953; see also Ocko & Hamburg, *supra* note 6, at 14075.

70. Steinhurst et al., *supra* note 51, at 6.

71. National Conference of State Legislatures, *State Renewable Portfolios and Standards*, <https://www.ncsl.org/research/energy/renewable-portfolio-standards.aspx> (last visited Sept. 24, 2021) [<https://perma.cc/HB42-PBYK>].

72. Jin et al., *supra* note 53, at 1; Ulf Malfast et al., *Spatial Upscaling of CO₂ Emissions from Exposed River Sediments of the Elbe River During an Extreme Drought*, 13 *ECOHYDROLOGY*, at 1 (Apr. 2020).

73. Andreas Maeck et al., *Sediment Trapping by Dams Creates Methane Emission Hot Spots*, 47 *ENVTL. SCI. TECH.* 8130, 8130 (2013).

of methane which ultimately bubbles to the surface. That assumption only holds, however, if steady water levels are assumed.

Jin and Malfast's studies on rivers where hydroelectric impoundments were present in years when water levels subsided due to drought conditions revealed the consequences of inevitable water level fluctuation. Both studies concluded that sediment exposed by fluctuated water levels result in significantly increased carbon dioxide flux.⁷⁴ Additionally, Jin's study indicates even more significant increases in methane and nitrous oxide emissions from exposed sediment.⁷⁵ These findings forecast another grim climate change-induced cycle; climate-induced ecological changes result in greater emissions and more daunting climatic effects. This equation should create a bright red flashing light. If action is not taken to develop solutions or alter existing policies, the climatic gears already in motion have self-perpetuating force that may reap further devastation so long as it remains unconsidered.

III. INEFFECTIVE IMPLEMENTATION OF EXISTING LEGISLATIVE SOLUTIONS

Fugitive emissions have been recognized as an issue in the struggle to mediate the worst results of climate change's inevitable effects. Required advancements must be both technological and legislative. Technological solutions to this problem will be briefly addressed later, but the more pressing problem FERC's disregard for emissions estimates in its legislative mandate, addressed in detail below. The critical pieces of legislation implicated in hydroelectric development, which demonstrate the current state of unpreparedness to address this staple of climate change resistance, include: (1) the Federal Power Act (FPA); (2) the National Environmental Policy Act (NEPA); and (3) the Clean Water Act (CWA). Each statute will be addressed in order, along with the precedent that exists to implement such policies appropriately to this pressing problem. Subsequently, amendments will be proposed to each that could motivate attentiveness to GHG emission.

A. Federal Power Act

Originally established in 1920 as the Federal Water Power Act, reorganized as the FPA in 1935, the original mandate of FERC was to issue licenses "for the development . . . of power [which] . . . in the judgement of the commission will be best adapted to a comprehensive scheme for improving or developing a waterway . . . for the benefit of interstate or foreign

74. Malfast et al., *supra* note 72, at 12; Jin et al., *supra* note 53, at 5.

75. Jin et al., *supra* note 53, at 6.

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commerce, for the improvement and utilization of water-power development, and of other beneficial public uses.”⁷⁶ To assure developers that cost recovery would be allowed and consumers that sufficient energy would be produced, the FPA provided that licenses would be granted for up to fifty years, after which relicensing procedures would occur.⁷⁷ FPA Section 808 established that in relicensing determinations, the public interest should remain considered along with various other factors.⁷⁸

Despite requiring consideration of the public interest, as described in Section I, environmental interests were summarily ignored for nearly thirty years until environmental advocacy and court rulings began to move the needle.⁷⁹ Ironically this occurred when the earlier of the first generation of FPA dams were coming up for relicensing. The first landmark case considering the application of the FPA was *Scenic Hudson Preservation Conference v. Fed. Power Comm’n*. The *Scenic Hudson* court remanded FERC’s license grant to construct a pumped storage hydroelectric facility on New York’s Hudson River for renewed proceedings.⁸⁰ In doing so, the court made several groundbreaking statements regarding necessary considerations in licensing, which provided context to the mandates of sections 797 and 803 to establish the “best adapted comprehensive scheme.” This decision finally emphasized considering adverse impacts on the “public interest,” and the court asserted that the public is due “active and affirmative protection” by FERC.⁸¹ The court elaborated that within the licensing provisions of the FPA, “recreational purposes” include

76. 16 U.S.C. §§ 797(e), 803(a) (1935).

77. *Id.* at §§ 799, 808.

78. *Id.* at § 808.

79. See generally *Preservation and Perseverance: Pillars of Scenic Hudson’s Grassroot Legacy*, HUDSON RIVER MARITIME ACADEMY (Aug. 5, 2020) <https://www.hrm.org/history-blog/preservation-and-perseverance-pillars-of-scenic-hudsons-grassroots-legacy> [<https://perma.cc/8NPM-KAYX>] [hereinafter *Preservation and Perseverance*] (following *Scenic Hudson*, the National Environmental Policy Act was adopted which granted citizens the right to comment on projects which will impact their environment); see also, DAVID SCHUYLER, *EMBATTLED RIVER: THE HUDSON AND MODERN AMERICAN ENVIRONMENTALISM* 25–26 (Cornell Univ. Press 2018) (outlining that despite no consensus emerging, authorities from judges to litigators believe that core NEPA requirements, federal agency mandates to evaluate the environmental impact of projects and requirement to identify reasonable project alternatives, were derived from the key holdings of *Scenic Hudson*).

80. *Scenic Hudson Preservation Conference v. Fed. Power Comm’n*, 354 F.2d 608, 624 (1965).

81. *Id.* at 620.

“conservation of natural resources, [and] the maintenance of natural beauty. . .” and FERC must weigh each of these factors.⁸²

Scenic Hudson spurred action at both the federal and state levels.⁸³ Within a decade of the landmark case, NEPA was enacted with various statutes that permitted private citizens to gain standing and oppose projects with adverse environmental consequences.⁸⁴ Despite these advances, FERC action lagged, even defying the Council on Environmental Quality’s (CEQ) requirement for all federal agencies to develop environmental compliance standards. FERC relied on its status as an independent agency to claim CEQ had no binding effect on the Commission’s environmental considerations.⁸⁵ FERC held their position despite the Supreme Court’s subsequent ruling in *Udall v. FPC*, which again chastised the Commission for failing to consider public interest factors such as “preserving. . . wilderness areas. . . and the protection of wildlife.”⁸⁶ The court asserted that the “choices available to satisfy future demands” must be among the considerations to avert such impacts.⁸⁷

Despite these changes, hydropower continued to be a heavily relied upon source of energy. FERC continued to ignore court precedent, which sought to create a framework for and emphasize a balanced evaluation of interests. The limited number of environmental conditions placed on licensing and relicensing agreements around this time reflects FERC’s resistance.⁸⁸ Such stubbornness is a common issue with secondary legislative mandates, or what an agency views as its secondary mandate.⁸⁹

Momentous tipping of the scale away from hydroelectric interests toward environmental consideration was delayed until 1986 with the ECPA passage.⁹⁰ Passage of ECPA triggered movement toward considering the broader effects of development on the riverine ecosystems. Subsequently, agency reconfiguration established an office dedicated to hydroelectric licensing and a wave of environmental experts were hired;⁹¹ Congress had finally acted.

The ECPA reconfigured the entire structure of decision-making within the FPA, and therefore within FERC, as it related to environmental impacts

82. *Id.* at 614.

83. *See Preservation and Perseverance*, *supra* note 79.

84. *Id.*

85. DeShazo & Freeman, *supra* note 19, at 2247.

86. *Udall v. Fed. Power Comm’n*, 387 U.S. 428, 450 (1967).

87. *Id.*

88. DeShazo & Freeman, *supra* note 19, at 2264.

89. *Id.* at 2220.

90. Electric Consumers Protection Act, 16 U.S.C. § 797 et. seq. (1986); *see also* DeShazo & Freeman, *supra* note 19, at 2222–23.

91. *See* DeShazo & Freeman, *supra* note 19, at 2258.

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of hydroelectric facilities. Although the list of factors to be considered did not include greenhouse gasses, it nonetheless altered the scope of implementing agencies. While not expressly included, *Massachusetts v. EPA*⁹² provides authority for requiring consideration of GHGs. However, *Massachusetts v. EPA* remains unlikely to consistently yield such results without further legislative amendment. Court rulings on greenhouse gas issues have widely varied and should not be relied on in agenda setting, especially relating to intricate scientific considerations due to the broad deference provided to agencies assessing which impacts to consider.⁹³

ECPA required FERC to “give equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of, fish and wildlife. . . and preservation of other aspects of environmental quality”.⁹⁴ The ECPA’s demand was in addition to its original mandate of “improvement and utilization of water-power development.”⁹⁵ The remodeled statute required FERC to account for these considerations when granting original licenses and considering relicensing. Further, the ECPA strongly encouraged interagency cooperation throughout hydroelectric project development. Support for interagency cooperation in sections 797(c), 803(a)(3), and 803(j)(1) requires cooperation in preparation of environmental documents, and other required licensing processes.⁹⁶ Renovation of pertinent legislative control on FERC and hydroelectric licensing magnified the cost of anti-environment decisions. Thus, the quantity of lateral agencies, in this case state fish and wildlife agencies, proposed environmental conditions which FERC has implemented into licensing agreements significantly increased over the proceeding decades.⁹⁷

In the decades since the EPCA, there has been no fundamental retooling of the FPA’s consideration of environmental impacts caused by hydroelectric development. While the FPA was amended several times, the purpose has

92. See *Massachusetts v. Env’t. Prot. Agency*, 127 S. Ct. 1438, 1458–61 (2007).

93. Burger and Wentz, *Downstream and Upstream Greenhouse Gas Emissions: The Proper Scope of NEPA Review*, 41 HARV. ENVTL. L. REV. 109, 142–44 (2017).

94. 16 U.S.C. § 797(e) (2005).

95. 16 U.S.C. § 803 (2005).

96. 16 U.S.C. §§ 797(c), 803(a)(3), 803(j)(1) (2005).

97. See DeShazo & Freeman, *supra* note 19, at 2263–65, 2272 (explaining that the ECPA required FERC to consult with specific resource agencies including fish and wildlife agencies and “[Any] agency established pursuant to Federal Law that has the authority to prepare such a plan; or the state in which it is located”); see also 16 U.S.C. § 803(a)(3), (j)(1).

been mainly to expand renewable energy without considering climatic effects.

This evolution indicates two things: (1) the present verbiage of the FPA could be interpreted to enforce GHG mitigation measures whether pre- or post-impoundment; and (2) FERC's resilience to increased conditioning considerations oversight suggests more stringent measures will be necessary. This dichotomy is demonstrated by the fact that despite 2015⁹⁸ and 2017⁹⁹ Policy Statements reaffirming commitment to environmental protection purposes that have adverse human impacts, neither Wisconsin's Kimberly Hydroelectric Project nor the Klamath decommissioning project considered potential emissions.¹⁰⁰

B. National Environmental Policy Act

The National Environmental Policy Act (NEPA) has become central to energy development licensing procedures, including FERC's hydroelectric licensing. On January 1, 1970, NEPA was enacted and set the groundwork for environmental legislation for several decades.¹⁰¹ At its core, NEPA requires various agencies to conduct pre-action assessments of both environmental impacts and less invasive alternatives. However, it is now widely recognized that the environmental movement's nascent legislation was highly aspirational. Aspiration is no doubt required in this regard, but it also yielded a myriad issue that remains today.¹⁰²

NEPA's stated purpose is to "encourage productive and enjoyable harmony between man and his environment; [and] to promote efforts which will prevent or eliminate damage to the environment. . . ."¹⁰³ Certain agencies have interpreted NEPA as a vehicle primed for application to the issue of GHG emissions and climate change; others have neglected to do so or

98. 18 C.F.R. § 380.4 (2015).

99. FED. ENERGY REG. COMM'N, PL17-3-000, POLICY STATEMENT ON ESTABLISHING TERMS FOR HYDROELECTRIC PROJECTS (2017).

100. *See generally* FED. ENERGY REG. COMM'N, P-10674-017, ENVIRONMENTAL ASSESSMENT FOR HYDROPOWER LICENSE: KIMBERLY HYDROELECTRIC PROJECT 14-25 (2020) (failing to mention potential for GHG emissions or address the fact that they may be present in the headwater); ORDER AMENDING LICENSE AND DEFERRING CONSIDERATION OF TRANSFER APPLICATION, 162 FERC ¶ 61,236 (Mar. 15, 2018).

101. *Id.*; *see also* Richard Lazarus, *Greening of America and the Graying of United States Environmental Law: Reflections on Environmental Law's First Three Decades in the United States*, 20 VA. ENV'T. L.J. 75, 77 (2001).

102. *See* Richard Glick, Commissioner Richard Glick Dissent in Part Regarding Mountain Valley Pipeline, LLC, Federal Energy Regulatory Commission (June 18, 2020), [https://perma.cc/FYV9-S94V].

103. 42 U.S.C. § 4321 (1970).

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applied it to GHG's more selectively.¹⁰⁴ Unfortunately, FERC falls neatly under the latter description. Various FERC commissioners, including Trump Administration Chairman Neal Chatterjee, have explicitly—though symbolically—recognized the pressing need to reckon with GHG emissions.¹⁰⁵ Like Richard Glick, the new FERC Chairman, others have openly criticized the Commission for its failure to adequately shift policy to address emissions produced by energy development and facilities.¹⁰⁶

Environmental Assessments (EA) and Environmental Impact Statements (EIS) are the two key tools utilized to achieve NEPA's objective to "insure integrated use of natural and social sciences and environmental design. . . in decision-making which may have an impact on man's environment."¹⁰⁷

NEPA requires Environmental Assessments in every energy facility's proposal to support licensing decisions environmental impacts.¹⁰⁸ However, NEPA's text only ambiguously demands statements on "(i) the environmental impact . . . (ii) adverse environmental effects which cannot be avoided . . . [and] (iii) [project] alternatives."¹⁰⁹ NEPA also vaguely requires evaluation of "the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity."¹¹⁰ This verbiage has led to broad, unpredictable implementation by agencies. Federal regulations have further clarified that the EA's serve as a brief statement to determine the necessity of a more detailed EIS.¹¹¹

When required, Environmental Impact Statements for hydroelectric facility license applications must include: water use and quality, fish,

104. Rich Glick & Matthew Christiansen, *FERC and Climate Change*, 40 Energy L.J. 1, 6 (2019); see also U.S. GLOB. CHANGE RSCH. PROGRAM, IMPACTS, RISKS, AND ADAPTATIONS IN THE UNITED STATES (2018), <https://nca2018.globalchange.gov/> [<https://perma.cc/5K8K-4CA3>].

105. FED. ENERGY REG. COMM'N, AD20-14-000, CARBON PRICING IN ORGANIZED WHOLESALE ELECTRICITY, 173 FERC ¶ 61,062 (2020); see also Christopher J. Bateman & James T.B. Tripp, *Toward Greener FERC Regulation of the Power Industry*, 38 HARV. ENVTL. L. REV. 275, 278 (2014).

106. Glick & Christiansen, *supra* note 104, at 6; see also Walker Stanovsky et al., *D.C. Circuit Sinks FERC Hydro License for Failure to Adequately Consider Past Environmental Harms*, DAVIS WRIGHT TREMAINE LLP (July 11, 2018), https://www.dwt.com/insights/2018/07/dc-circuit-sinks-ferc-hydro-license-for-failure-to#_ftn1 [<https://perma.cc/T38C-U3BT>].

107. 40 C.F.R. § 1501.5; 40 C.F.R. § 1502.2; 42 U.S.C. § 4332(A).

108. 42 U.S.C. § 4332(C).

109. 42 U.S.C. § 4332(C)(i)–(iii).

110. See 42 U.S.C. § 4332(C)(iv).

111. 40 C.F.R. § 1501.5(c)(1).

wildlife, vegetation, cultural, and socioeconomic impacts.¹¹² Along with these considerations, NEPA mandates various siting requirements for all non-exempt projects in order to minimize environmental impacts on the abovementioned resources, and insure safety and energy generation capacity.¹¹³

Less frequently required, and demanding stricter procedural rules, are Environmental Impact Statements—obligatory for all major actions “significantly affecting the human environment” as dictated by the initial Environmental Assessment findings.¹¹⁴ No specific considerations are required by the EIS, instead impacts unearthed in the EA guide a more detailed EIS analysis. The analysis is also generally required to examine the cumulative resource impacts and areas of controversy.¹¹⁵ Further, the EIS consultant is chosen and instructed by the Commission. Without strict baselines to follow, the consultant’s decisions can potentially be tailored to the analyze impacts they view as necessary.¹¹⁶ Accordingly, an EIS for hydroelectric facilities generally examines factors such as water quality, water supply, flow rates, water temperatures, and erosion control. The scope of those findings and suggested actions can be interpreted as FERC pleases.¹¹⁷

Attempts have been made to restrain this unwieldy authority through interagency cooperation; however, they have produced marginal success. For instance, amendments to the FPA in the 2005 Energy Policy Act created “trial type-hearings” on disputed material fact in the licensing process, and recent court rulings indicate FERC should be considering emissions in environmental effects.¹¹⁸ However, even with these advancements, NEPA is considered a fundamentally flawed legislative tool.¹¹⁹ Prominent regulators such as FERC Chairman Richard Glick have repeatedly expressed¹²⁰ this view as it relates to Natural Gas development. His criticisms are equally applicable to hydroelectric development.

112. *See generally* 18 C.F.R. § 380.16.

113. *See generally* 18 C.F.R. § 380.15.

114. FED. ENERGY REG. COMM’N, PREPARING ENVIRONMENTAL DOCUMENTS: GUIDELINES FOR APPLICANTS, CONTRACTORS, AND STAFF (Sept. 2008) at v.

115. *Id.* at 46–47; *see also* 40 C.F.R. § 1502.15 (2020).

116. FED. ENERGY REG. COMM’N, PREPARING ENVIRONMENTAL DOCUMENTS: GUIDELINES FOR APPLICANTS, CONTRACTORS, AND STAFF, v–vi (2008).

117. 16 U.S.C.A. § 797(e) (2005); *see also* DeShazo & Freeman, *supra* note 19, at 2270 (arguing that despite the implementation of the ECPA and the requirement of EIS’s as of the time of the article, FERC had declined only one project out of 222, which demonstrates the focus is on conditioning grants, not fitness).

118. *Sierra Club v. FERC*, 867 F.3d 1357, 1374–75 (D.C. Cir. 2017).

119. DeShazo & Freeman, *supra* note 19, at 2228; *see also* Bateman & Tripp, *supra* note 105, at 297, 300.

120. Glick & Christiansen, *supra* note 104, at 42–43.

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Commissioner Glick has repeatedly claimed that, similar to the FPA, if NEPA were properly and ubiquitously implemented, it would contain sufficient tools to regulate and mitigate emissions.¹²¹ Glick has stated that reasoned decision-making does not support the Commission's current public interest determinations and that climatic effects of energy sources deserve consideration under NEPA.¹²²

The federal district courts have concurred on several grounds. In *American Rivers v. FERC*, the D.C. Circuit fundamentally opposed FERC's approach to hydroelectric licensing under NEPA.¹²³ The court held that FERC had "declined to factor in the decades of environmental damage already wrought by exploitation of the waterway for power generation and that damage's continuing ecological effects."¹²⁴ Just a year earlier, the D.C. Circuit similarly ruled against FERC's baseline utilization of NEPA. Contemplating the extent to which an EIS must discuss emissions, the court asserted FERC "should have estimated the amount of power-plant carbon emissions."¹²⁵ The court elaborated that despite several contributing variables making precise quantification challenging, "NEPA analysis necessarily involves some 'reasonable forecasting.'"¹²⁶ Further, FERC could "reasonably foresee" such emissions, and therefore has an obligation to mitigate, or at a minimum, discuss the emissions' significance.¹²⁷

Similar to the current state of the FPA, NEPA has been systemically underutilized. As Commissioner Glick has intimated, there is plenty FERC can do within existing NEPA framework to mandate consideration of GHG emissions.¹²⁸ Lacking "absolute certainty" or a single comprehensive methodology to quantify emissions does not mean the task is impossible.¹²⁹ NEPA's encouragement of agencies to identify and remedy deficiencies in their current policy in section 103 supports Commissioner Glick's position.¹³⁰

NEPA retains potential functionality if regulators implement several scientific methods researchers have used to quantify project emissions

121. Glick & Christiansen, *supra* note 104, at 66–67.

122. Glick & Christiansen, *supra* note 104, at 12, 42.

123. *American Rivers v. FERC*, 895 F.3d 32, 37 (D.C. Cir. 2018).

124. *Id.*

125. *Sierra Club v. FERC*, 867 F.3d 1357, 1374–75 (D.C. Cir. 2017).

126. *Id.* at 1374.

127. *Id.*

128. Glick & Christiansen, *supra* note 104, at 6.

129. See Glick & Christiansen, *supra* note 104, at 4.

130. 42 U.S.C. § 4333.

(methodologies that yielded the estimates discussed in Section II). While quantification methods would likely vary, assessing the climatic impacts within each project's environmental report's scope is necessary to reach informed decisions in granting or rejecting proposals. Analysis of emissions could also help to provide a more holistic measure of per capita GHG emissions.

C. Clean Water Act

Encouraging states to pursue stringent enforcement of the CWA potentially presents a straightforward solution to the hydroelectric fugitive emissions dilemma. Several other statutes have been relied on to control dam commissioning and decommissioning. However, these statutes fail to drive at the heart of the matter, whereas the CWA deals directly with water quality.¹³¹ Therefore, it possesses the potential to regulate levels of accumulated GHGs within headwaters.

The root of the hydroelectric impoundment emissions problem is referenced in the CWA's opening stanza, which set its original policy objective.¹³² Section 401(a)(1) mandates that developers obtain water quality certification from the relevant states and state agencies before FERC may proceed with licensing.¹³³ Pursuant to state certification, water quality standards become binding for the duration of the project license.¹³⁴ Under the CWA, water quality standards must conform to public safety. States' promulgation of standards, through certification requirements, have bolstered the contemporary Environmental Protection Agency's ("EPA") water quality standards.¹³⁵

Broader implementation of the Clean Water Act ("CWA") could mitigate hydroelectric emissions. Pooling headwaters at reservoirs can transform water quality due to temperature fluctuations and decreased oxygen levels.¹³⁶ Because some dams are designed to mitigate temperature fluctuations by releasing cooler water from the bottom of the reservoir, the potential for emissions may go unchecked at dams whose siting did not account for the high emissions factors identified by Illisa Ocko's

131. 33 U.S.C. § 1341(a)(1).

132. 33 U.S.C. § 1251(a).

133. 33 U.S.C. § 1341(a).

134. FED. ENERGY REG. COMM'N, HYDROPOWER PRIMER: A HANDBOOK OF HYDROPOWER BASICS 21 (2017).

135. 40 C.F.R. § 131.4 (2021).

136. *How Dams Damage Rivers*, American Rivers (2019), <https://www.americanrivers.org/threats-solutions/restoring-damaged-rivers/how-dams-damage-rivers/> [<https://perma.cc/L77S-7JXH>].

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study.¹³⁷ Along with state actions, the EPA could mitigate this potential by first updating the established list of toxic pollutants¹³⁸ to include carbon dioxide, methane, and nitrous oxide. Second, as courts have interpreted state application of CWA water quality certifications broadly,¹³⁹ the statute could be used to condition licenses on requisite temperature levels and dissolved oxygen fluctuations. Along with intermittent measurement of subsurface greenhouse gas build-ups, these two factors could serve as a proxy for such potential emissions before facility development.

One option for states to move in this direction is through 40 C.F.R. 131.11(b)(2)¹⁴⁰ authorization, which allows states to “establish narrative criteria . . . where numeric criteria cannot be established.”¹⁴¹ While numerical data is attainable, as the above referenced scientific data demonstrates, this represents a method to circumvent the DOE and FERC absconding responsibility through claims that ascertaining accurate emissions measures is too difficult.¹⁴²

D. Minimal Shifts in Statutory Application Has the Potential to Mitigate Future Emissions

Each of these statutes substantively contributed to the progressive movement to condition and experiment with hydroelectric licenses. However, the statutes could be interpreted as constructing a barrier that effectively renders adverse impacts, such as GHG emissions, unnecessary to mitigate or consider. Desire to move rapidly to contain the worst effects of climate change through deployment of renewable energy sources has resulted in these policies. Whether intentional or through misapplication, some of these policies have missed their mark. The three legislative policies identified above are equipped to address GHG emissions caused

137. *Id.*; see also Ocko & Hamburg, *supra* note 6, at 14079 (explaining that warmer temperatures indicate low levels of water column mixing and thus greater anoxic conditions which promote methane production); Fearnside, *supra* note 6, at 2 (describing how releases of water through the turbine allow gasses to escape).

138. 40 C.F.R. § 401.15 (2021).

139. See Charles R. Sensiba et al., *Deep Decarbonization and Hydropower*, 48 ENVTL. L. REP. 10309, 10313 (2018) (citing Pub. Util. Dist. No. 1 of Jefferson City v. Wash. Dep’t of Ecology, 511 U.S. 700, 716 (1994)).

140. 40 C.F.R. § 131.11(b)(2) (2020).

141. ENVIRONMENTAL PROTECTION AGENCY, EPA-823-B-17-001, WATER QUALITY STANDARDS HANDBOOK CHAPTER 3: WATER QUALITY CRITERIA 4–5 (2017).

142. See U.S. DEP’T OF ENERGY, *supra* note 1, at 301, 303–05.

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Date of JD/LLB **May 5, 2023**

Class Rank **Not yet ranked**

Law Review/Journal **Yes**

Journal(s) **South Texas Civil Liberties Review**

Moot Court Experience **Yes**

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Internships/ **Yes**
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**This applicant has certified that all data entered in this profile and
any application documents are true and correct.**

February 19, 2023

The Honorable Irma Ramirez
Earle Cabell Federal Building and
United States Courthouse
1100 Commerce Street, Room 1567
Dallas, TX 75242

Dear Judge Ramirez:

I have over two years of legal experience as a Clerk, Judicial Intern & Litigation Intern, and I expect to graduate from South Texas College of Law Houston (STCLH) in May of 2023. Upon graduation, I will be sitting for the July BAR Exam (UBE), and I hope to begin my legal career within your chambers shortly after.

My passion for the law derives from my dream to give back in a way greater than myself. Through law and my many interests, I hope to play a role in impacting people's lives for the better through litigation and appeals. That is why over the last year, I have taken such a large interest in the Harris County Attorney's Office, where I specialize in Civil Rights, Texas Constitutional Questions, Election Law, Personal Injury, and Civil Appeals. It has been a great honor representing fourteen thousand county employees and 4.1 million citizens in some of the most exhilarating cases that genuinely allow me to make an impact in my community. From taking on the Governor of Texas to taking civil actions against businesses that harbor criminal activities, like sex trafficking, I know I am making a difference.

In my activities at STCLH, I have also made an impact not only on the students at STCLH but on the people we can touch by using what we learn. As a 1L, I started a student organization (DLSA), which has grown to over 70 members. In addition to founding this student organization, I have made it a mission to install a chapter at every law school in Texas. So far, I have assisted in establishing three chapters, and I currently represent all Law Students on the Texas Democratic Lawyers Association Board of Directors. In addition, our STCLH chapter is launching a pro-bono amicus brief program so that we may apply our legal knowledge and submit amicus briefs to the Texas Supreme Court.

Along with my successes with DLSA, I have also been elected to become the president of the ACLU Chapter at STCLH and became an Oral Advocate on STCLH's Varsity National Moot Court Team. Hearing about the ACLU and their battles from a young age was one of the largest contributing factors to my journey to becoming an attorney. Likewise, hearing about STCLH's advocacy programs was one of the main reasons I applied to STCLH. Every day I am living the life I dreamed of as a child, and despite my challenges, I am on the path to becoming the advocate I have always dreamed of being.

I would like to address some of those challenges I endured because my GPA is a factor you may be considering, but it does not represent academic faults but merely hardships I overcame. The adversity of entering law school during a pandemic was a challenge my peers also battled, but there were also some unforeseen hiccups along the way. During the fall exam period of my first semester, I was diagnosed with COVID-19. I pushed through to complete 3 of my courses, but I was too ill to sit for my Contracts I and Civil Procedure I exams. By deferring these two courses, I had to wait till the end of the Spring semester to sit for my exams. This wait became more challenging because the professors I had taken were no longer teaching those courses, so I had to sit for the exam of different professors without ever attending their classes. Furthermore, I had to take those exams the same day as their counterparts (Contracts I final exam in the morning, Contracts II final exam in the afternoon of the same day, and the same for Civil Procedure I & II). To add insult to injury, I was in a car accident the week of Spring Exams.

During my Summer Semester, when I began interning for an amazing Justice at Texas's Fourteenth Court of Appeals, I thought I had seen the horizon of my hardships. I chose to challenge myself by taking a summer class, along with my internship, the most challenging course of my tenure at STCLH (Federal Income Tax). At the beginning of the summer, I had witnessed my first oral argument and was excelling in my summer course, but that abruptly changed in June when I was diagnosed with cancer. This diagnosis halted everything. I began attending doctor's appointments for my treatment & surgery to remove the cancer, along with the doctors' appointments I was already going to for the car accident I was in during Spring Finals. Each of these challenges for many would-be once in a lifetime, but for me, they all coalesced one after another. I have only been energized to push further and never backed down. I have completed each class I have taken and earned a few As along the way. Less than one year after my cancer diagnosis, I learned to paint in my free time, found a love for cooking, and was able to grow the short walks I would take with my dog to competing in my first half marathon and summiting the highest peak in Texas, the Guadalupe Peak.

I am entering my final year of law school with two semesters to go, and there is a lot I still hope to do before I graduate, but I am glad applying to clerk for you is something I have had the opportunity to do. Though my grades may not be the caliber of other applicants, I am a passionate advocate, each day affecting real change and leading my peers to make a difference of their own. I have taken my adversities and literally ran with them, just as I would like to do when challenges arise at the court.

Sincerely,

Brandon Zaratti

Brandon C. Zaratti

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Affiliations: Hispanic Law Students Association, Sports & Entertainment Law Society, and more.

The University of Texas at San Antonio (UTSA) Graduation: May 2019

Bachelor of Business Administration in Marketing; minor in Political Science

LEGAL EXPERIENCE

Harris County Attorney's Office | *Litigation Intern*, Houston, Texas August 2021 – August 2022

- Litigation Intern for two HCAO Divisions: Affirmative Litigation and Defensive Litigation.
- Represented over 4.7 million citizens and assisted in settlements/dismissals saving the County over \$460 million.
- Drafted briefs & motions for claims in the Fifth Circuit of the U. S., the Southern District of Texas, the Supreme Court of Texas, Texas's First & Fourteenth Courts of Appeals, and in Harris County Civil Trial Courts.
- Specialized in Civil Rights, Texas Constitutional Questions, Election Law, Personal Injury, and Civil Appeals.

Brazil & Dunn | *Law Clerk*, Houston, Texas December 2021 – January 2022

- Conducted evidentiary research for *Lopez v. Hotze* pertaining to Election Law, Civil Rights, and Torts.

Fourteenth Court of Appeals | *Judicial Intern*, Houston, Texas June 2021 – July 2021

- Conducted case research on case-specific issues using Westlaw & LexisNexis to find case precedent, then compiled my findings into memorandum format to assist in rulings and the drafting of opinions.
- Attended 1-2 educational seminars a day, with Justices of the First & Fourteenth Courts of Appeals over Criminal, Civil, and Appellate Law; both at the state and federal level.

C.Y. Lee Legal Group PLLC | *Legal Clerk*, Greater Houston, Texas October 2019 – June 2021

- Worked with the managing attorney to develop legal arguments, motions, and other case filings, presented in district & county courts in Fort Bend County, Harris County, and proceedings in the Southern District of Texas.
- Assisted in the drafting of the law firm's first Habeas Corpus, which was also the firm's first ever appeal.

LEADERSHIP

TIPS of the American Bar Association | *Law Student Vice Chair*, App. Adv. Committee September 2022 – Current

South Texas Civil Liberties Review | *Editor in Chief*, South Texas College of Law Houston August 2022 – Current

Varsity Moot Court Team | *Oral Advocate*, South Texas College of Law Houston January 2022 – Current

- Drafted & presented oral arguments at the 34th Annual Gabrielli National Family Law Moot Court Competition.

Texas Democratic Lawyers Association | *Executive Board Member*, Texas September 2020 – Current

- Represent all Texas law school DLSA chapters, and their law students before the executive board.

Democratic Law Students Association | *Attorney General*, South Texas College of Law Houston August 2020 – Current

- Founder of the first DLSA Chapter in Texas and sat as the elected president for 2 years (1L & 2L), before becoming Attorney General, where I lead the organization in the drafting and the publishing of Amicus Briefs.

American Civil Liberties Union at STCLH | *President*, South Texas College of Law Houston August 2020 – Current

- Elected 1L Representative, Secretary as a 2L, and President as a 3L where I plan and execute panel discussions over the preservation of civil liberties and work with nonprofits establishing pro bono opportunities for our membership.

OTHER EXPERIENCE

Hot Coffee Digital Marketing | *Founder and Owner*, Houston, Texas August 2019 – Current

- Established more than 26 marketing contracts, leading to the hiring, and managing of staff to meet our clients growing marketing goals while educating future marketing leaders on how to start a small business & build a portfolio.

U.S. House of Representatives | *Congressional Intern*, San Antonio, Texas January 2018 – May 2018

- Contacted Federal Agencies on behalf of constituents and assisted with events & policy.

COMMUNITY ACTIVITIES

ALS Association of Texas, Boy Scouts of America (Eagle Scout), Future Farmers of America (Lone Star FFA Degree), Garland R. Walker American Inn of Courts, County Precinct Chair, Patient Housing Assistance, Phi Delta Theta Fraternity

South Texas College of Law Houston
Houston, TX 77002

SSN:***-**-9817

Student No:G00042627

Date of Birth: 22-AUG-1996

Date Issued:03-FEB-2023 OFFICIAL

Record of : Brandon C Zaratti

** Warning - No Address **

Issued To : BRANDON ZARATTI

Course Level : Law

Only Admit: Fall 2020

Last Admit: Fall 2020

Current Program

Degree : Juris Doctor

Program : Law Student

Major:

Law

Subj R	No.	C	Title	Cred	Grade	Pts
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INSTITUTION CREDIT:

Fall 2020

LAW 201	M	Criminal Law	3.00	C	6.000
LAW 202	M	Contracts I	3.00	C+	6.999
LAW 203	M	Torts I	3.00	B-	8.001
LAW 204	M	Legal Research & Writing I	3.00	B-	8.001
LAW 205	M	Civil Procedure I	3.00	C+	6.999
LAW 563	M	Introduction to Law Study	1.00	P	0.000

Earned Hrs	GPA-Hrs	QPts	GPA
16.00	15.00	36.000	2.400

No Standing

Spring 2021

LAW 206	M	Torts II	3.00	C+	6.999
LAW 207	M	Property I	3.00	C+	6.999
LAW 208	M	Contracts II	3.00	C+	6.999
LAW 210	M	Legal Research & Writing II	2.00	A-	7.334
LAW 565	M	Civil Procedure II	3.00	C+	6.999

Earned Hrs	GPA-Hrs	QPts	GPA
14.00	14.00	35.330	2.524

Good Standing

Summer 2021

LAW 211	M	Federal Income Taxation	3.00	C	6.000
LAW 446	M	Judicial Externship	2.00	HP	0.000

Earned Hrs	GPA-Hrs	QPts	GPA
5.00	3.00	6.000	2.000

Good Standing

Subj R	No.	C	Title	Cred	Grade	Pts
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INSTITUTION CREDIT:

Fall 2021

LAW 209	M	Constitutional Law	4.00	B	12.000
LAW 212	M	Property II	3.00	B+	9.999
LAW 213	M	Evidence	3.00	C+	6.999
LAW 214	M	Professional Responsibility	3.00	B+	9.999
LAW 360	M	Intro to Appellate Advocacy	1.00	HP	0.000
LAW 581	M	Oral Persuasion	1.00	HP	0.000

Earned Hrs	GPA-Hrs	QPts	GPA
15.00	13.00	38.997	3.000

Good Standing

Spring 2022

LAW 228	M	Wills, Trusts & Estates	3.00	A-	11.001
LAW 230	M	Secured Transactions	3.00	C+	6.999
LAW 233	M	Texas Trial & Appellate P roc	3.00	C-	5.001
LAW 361	M	Moot Court A	1.00	HP	0.000
LAW 374	M	Civil Trial Advocacy	3.00	A-	11.001
LAW 505	IS	Criminal Litigation Drafting	2.00	P	0.000

Earned Hrs	GPA-Hrs	QPts	GPA
15.00	12.00	34.002	2.834

Good Standing

Summer 2022

LAW 236	M	Criminal Procedure	4.00	B-	10.668
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Earned Hrs	GPA-Hrs	QPts	GPA
4.00	4.00	10.668	2.667

Good Standing

Fall 2022

LAW 224	M	First Amendment Law	2.00	B	6.000
LAW 235	M	Agency & Partnership	3.00	B-	8.001
LAW 373	M	Trial Advocacy I	2.00	P	0.000
LAW 487	M	International Human Rights	3.00	B-	8.001
LAW 576	M	Advanced Legal Skills	2.00	A-	7.334
LAW 587	M	Trial Advocacy: Evident Found	2.00	P	0.000

Earned Hrs	GPA-Hrs	QPts	GPA
14.00	10.00	29.336	2.934

Good Standing

Last Standing:Good Standing

Spring 2023

LAW 231	M	Corporations	3.00	In Prog Course	
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Chandra Gonzalez

Chandra Gonzalez
Senior Director, Student Services

South Texas College of Law Houston
Houston, TX 77002

SSN:***-**-9817 Student No:G00042627 Date of Birth: 22-AUG-1996 Date Issued:03-FEB-2023 OFFICIAL

Subj R	No.	C	Title	Cred	Grade	Pts
-----------	-----	---	-------	------	-------	-----

INSTITUTION CREDIT:						
LAW	234	M	Family Law	3.00	In Prog Course	
LAW	240	M	Bar Preview Program	2.00	In Prog Course	
LAW	262	M	Recent US Supr Court Cases Sem	2.00	In Prog Course	
LAW	310	M	Professional Sports Law	2.00	In Prog Course	

Transcript Totals		Earned Hrs	GPA Hrs	Points	GPA
TOTAL INSTITUTION		83.00	71.00	190.333	2.681
TOTAL TRANSFER		0.00	0.00	0.000	0.000
OVERALL		83.00	71.00	190.333	2.681
-----END OF TRANSCRIPT-----					



Chandra Gonzalez
Senior Director, Student Services

@01531588 Brandon C. Zaratti
Feb 13, 2018 05:41 pm

Display Transcript



This is NOT an official transcript. Courses which are in progress may also be included on this transcript. Degree information, TASP Scores, and Core Classes are not indicated. Please request an official transcript at the Enrollment Services Center for this information.

[Transfer Credit](#) [Institution Credit](#) [Transcript Totals](#) [Courses in Progress](#)

Transcript Data

STUDENT INFORMATION

Birth Date: 22-AUG

Curriculum Information

Current Program

College: Business

Major: Marketing

Minor: Political Science

***Transcript type:EXTL is NOT Official ***

DEGREES AWARDED:

Sought: Bachelor of Business Admin **Degree Date:**

Curriculum Information

Primary Degree

Major: Accounting

Sought: Bachelor of Business Admin **Degree Date:**

Curriculum Information

Primary Degree

Major: Marketing

Minor: Political Science

TRANSFER CREDIT ACCEPTED BY INSTITUTION -Top-

Transfer: Houston Community College

Subject	Course	Title	Grade	Credit Hours	Quality Points	R
ECO	2023	Intro Microeconomics	TA	3.000	12.00	
			Earned Hours			
Current Term:			3.000			

Unofficial Transcript

INSTITUTION CREDIT -Top-

Term: Fall 2015

College: Business
Major: Pre-Business
Student Type: New Student (first time)
Academic Standing: Academic Good Standing

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R	CEU Contact Hours
AHC	1123	01	Survey of Art/Arch 1350-1750	B	3.000	9.00		
AIS	1203	01	Academic Inquiry	B	3.000	9.00		
HIS	1043	01	US His Pre-Columbus to Cvl War	A	3.000	12.00		
MAT	1033	01	Algebra with Calculus for Bus	B	3.000	9.00		
WRC	1013	01	Freshman Composition I (Q)	B	3.000	9.00		

Term Totals (Undergraduate)						
	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	15.000	15.000	15.000	15.000	48.00	3.20
Cumulative:	15.000	15.000	15.000	15.000	48.00	3.20

Unofficial Transcript

Term: Spring 2016

College: Business
Major: Pre-Business
Student Type: Continuing
Academic Standing: Academic Good Standing

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R	CEU Contact Hours
ECO	2013	01	Introductory Macroeconomics(Q)	B	3.000	9.00		
HIS	1053	01	US His Civil War to Present	A	3.000	12.00		
IS	1403	01	Business Info Systems Fluency	A	3.000	12.00		
MS	1023	01	Bus Stats w/Computer Apps I	C	3.000	6.00		
POL	1013	01	Intro to American Politics (Q)	B	3.000	9.00		
WRC	1023	01	Freshman Composition II (Q)	A+	3.000	12.00		

Term Totals (Undergraduate)						
	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	18.000	18.000	18.000	18.000	60.00	3.33
Cumulative:	33.000	33.000	33.000	33.000	108.00	3.27

Unofficial Transcript

Term: Fall 2016

College: Business
Major: Pre-Business
Student Type: Continuing
Academic Standing: Academic Good Standing

Subject	Course	Level	Title	Grade	Credit	Quality	R	CEU
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					Hours	Points	Contact Hours
ACC	2013	01	Principles of Accounting I	B	3.000	9.00	
COM	1053	01	Business & Professional Speech	B	3.000	9.00	
ES	1113	01	Environmental Botany(Q)	B	3.000	9.00	
IS	3003	01	Principles of IS for Mgmt	B+	3.000	9.99	
PHI	2023	01	Intro Ancient Philosophy	C	3.000	6.00	
POL	1133	01	Texas Politics and Society	A	3.000	12.00	

Term Totals (Undergraduate)							
				Attempt Hours	Passed Hours	Earned Hours	GPA
							Hours
							Quality Points
							GPA
Current Term:				18.000	18.000	18.000	18.000
Cumulative:				51.000	51.000	51.000	51.000

Unofficial Transcript

Term: Spring 2017

College: Business
Major: Accounting
Student Type: Continuing
Academic Standing: Academic Good Standing

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R	CEU	Contact Hours
ACC	2033	01	Principles of Accounting II (Honors)	B	3.000	9.00			
GBA	2013	01	Social & Ethical Issues in Bus	A-	3.000	11.01			
MGT	3013	01	Intro:Org Theory, Behav & Mgmt	C	3.000	6.00			
MKT	3013	01	Principles of Marketing	B	3.000	9.00			
POL	2623	01	Law & Society	B-	3.000	8.01			

Term Totals (Undergraduate)							
				Attempt Hours	Passed Hours	Earned Hours	GPA
							Hours
							Quality Points
							GPA
Current Term:				15.000	15.000	15.000	15.000
Cumulative:				66.000	66.000	66.000	66.000

Unofficial Transcript

Term: Fall 2017

College: Business
Major: Marketing
Student Type: Continuing
Academic Standing: Academic Good Standing

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R	CEU	Contact Hours
FIN	3013	01	Principles Business Finance(Q)	B-	3.000	8.01			
GLA	3453	01	Politics of Mexico	A	3.000	12.00			
MGT	3003	01	Business Com&Prof Development	C+	3.000	6.99			
MS	3043	01	Bus Stats w/Computer Apps II	C	3.000	6.00			
PAD	1113	01	Public Admin American Society	A	3.000	12.00			

Term Totals (Undergraduate)							
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	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	15.000	15.000	15.000	15.000	45.00	3.00
Cumulative:	81.000	81.000	81.000	81.000	251.01	3.09

Unofficial Transcript

TRANSCRIPT TOTALS (UNDERGRADUATE) -Top-						
	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Total Institution:	81.000	81.000	81.000	81.000	251.01	3.09

Unofficial Transcript

COURSES IN PROGRESS -Top-						
Term: Spring 2018						
College:		Business				
Major:		Marketing				
Student Type:		Continuing				
Subject	Course	Level	Title			Credit Hours
BLW	3013	01	Business Law			3.000
GES	2613	01	Physical Geography			3.000
MKT	3043	01	Advertising			3.000
MKT	4093	01	Consumer Behavior			3.000
POL	3823	01	Pol Congressional Elections(Q)			3.000

Unofficial Transcript

Brandon Zaratti

Phone: (832) 954-5439
Email: Brandon.Zaratti@stcl.edu
2115 Runnels St, Houston, TX 77003

Professional References

Laura Beckman Hedge

Deputy Director of Defensive Litigation
Harris County Attorney
Laura.Hedge@harriscountytexas.com
(346) 354-7462

Mrs. Hedge was my direct supervisor and the attorney I worked the closest with while in the Defensive Litigation Division at the Harris County Attorney.

The Honorable Jerry Zimmerer

Appellate Court Justice
Texas Court of Appeals, Fourteenth District
Jerry.Zimmerer@txcourts.gov
(713) 274-2800

Justice Jerry Zimmerer is a mentor, was the Justice at the Fourteenth Court of Appeals I directly interned for and serves alongside me on the Board of Directors for the Texas Democratic Lawyers Association.

Derek Fincham

Professor of Law
South Texas College of Law Houston
dfincham@stcl.edu
(713) 646-1849

Professor Fincham is the faculty advisor for the student organization I founded, DLSA, and whom I often spoke with about the organization's direction and the creation of the Amicus Brief Pro-Bono Initiative.

Kirk Guillory

Director of Student Engagement & Student Organizations
South Texas College of Law Houston
kguillory@stcl.edu
(713) 894-2983

Mr. Guillory is a mentor that I have worked with from day one at STCLH with all activities regarding student organizations, activities on campus, and ways I can give back to the community.

Daniel Lee

Managing Attorney
C.Y. Lee Legal Group, PLLC
clee@leelegalgroup.com
(632) 551- 8506

Mr. Lee was the first attorney who gave me a chance to learn about the law. He is a mentor who took me to court with him each day. He taught me to draft pleadings and his offices first Habeas Corpus. I owe him much of my success as a law student and future attorney.

February 19, 2023

The Honorable Irma Ramirez
Earle Cabell Federal Building and
United States Courthouse
1100 Commerce Street, Room 1567
Dallas, TX 75242

Dear Judge Ramirez:

I am writing to recommend Mr. Brandon Zaratti for a clerkship. Mr. Zaratti is a dedicated law student passionate about the public interest and civil rights. While I have not had the pleasure of teaching Mr. Zaratti in class, he has been very engaged with student groups here at South Texas. He is a member of our Moot Court program, and has worked tirelessly to improve the standing of the various student organizations in which he has served in an officer capacity. I could not imagine a more qualified candidate for a clerkship. He is an absolute joy to work with, and I have no doubt he will enrich the judges, attorneys, and clients he works with in the coming years.

If I can tell you anything more about this wonderfully deserving candidate, please do let me know.

Sincerely Yours,

Dr. Derek Fincham
Professor, South Texas College of Law, Houston
dfincham@stcl.edu

Derek Fincham - dfincham@stcl.edu - 7136461849



OFFICE OF THE
HARRIS COUNTY ATTORNEY
CHRISTIAN D. MENEFFEE

July 1, 2022

To Whom it May Concern:

RE: Brandon Zaratti Federal Clerkship – Letter of Recommendation

Please allow this letter to serve as my recommendation of Brandon Zaratti for a federal clerkship with your office. Brandon has been an intern at the Harris County Attorney's Office since August of 2021, and in his time in the Defensive Litigation Division, he has reported directly to me. I expected after interviewing him that he would be driven to perform good work and he met that expectation. During the summer of 2021, litigation regarding mask mandates in Harris County was underway. Brandon observed this prior to the start of his fall internship and quickly reached out to see if he could start his internship a few weeks early to assist on the case. It is uncommon to have an intern be that interested in their job and we were happy to bring him on board. He has thrown himself into his work at our office and been an asset to our litigation team.

Brandon provided valuable support on my cases. While working with me, he assisted on a variety of cases and was very helpful. He performed excellent research and located important client information and created a timeline on a complicated construction case.

In addition to working with me, Brandon also assisted many other attorneys in the Defensive Litigation Division. We strive to have our interns get a well-rounded experience while here, while also pursuing what they are passionate about. From what I have learned about Brandon – he is passionate about the law and the impact he hopes to make. I firmly believe he can make that impact, which is evident in his work and how the other attorneys in our division speak of him. He attended trial with one of our attorneys handling a tort case and got a firsthand look at things. Brandon would be an asset wherever he works (we have welcomed him back session after session to intern with us). I'm excited for his future and his interest in clerking for a federal judge. He has had the opportunity to work in our Affirmative Litigation Division for the first part of the summer (working on election cases). We look forward to his returning to Defensive Litigation for the remainder of the summer to help him further develop his legal skills.

Brandon Zaratti has a bright future as an attorney, and I believe a Judicial Clerkship is an excellent next step. He has been a fantastic intern and would make a wonderful addition to your team.

Sincerely,

A handwritten signature in black ink, appearing to read 'Laura Beckman Hedge', with a long horizontal flourish extending to the right.

Laura Beckman Hedge
Deputy Director, Defensive Litigation
Harris County Attorney's Office

Memorandum



To: Justice [REDACTED]
From: Brandon Zaratti
Date: July 2, 2021
Re: 14-2 [REDACTED] Cr; [REDACTED] v. *State*
 [REDACTED] to author

Recommendation: Overrule appellants issues and affirm trial courts judgment.

A jury convicted appellant of murder and assessed punishment at 78 years in prison. In appellant's second issue on appeal, appellant argued following the hearing of the jury verdict, appellant requested a mistrial and a new trial because the wrong alternate juror was allowed to vote on the verdict. (CR 7); (RR XXIV 13) Appellant argues in his fourth issue the trial court erred in denying appellant instruction on the lesser-included-offense of manslaughter. (CR 7) A review of the record and applicable law follows.

FACTUAL AND PROCEDURAL BACKGROUND

During the morning session on February 3, [REDACTED], and following the injury of one of the jurors, the trial court ruled, under article 36.29 of the Code of Criminal Procedure, to sit an alternate juror in the injured jurors place. (RR XIV 11); Tex. Code Crim. Proc. Art. 36.19. The court did not mention which alternate juror it would be. (RR XIV 11)

On February 10, [REDACTED], appellant requested instruction on manslaughter as the lesser included offense, the court denied. (RR XXIV 4) Ultimately the jury is charged with 2 indictments, I. Capital Murder, and II. Murder, and escorted by the bailiff to deliberate. (RR XXIII 108) Following a recess, the court returns to the record and the trial court judge says "I've instructed the bailiff to separate Ms. [REDACTED] who is the alternate in this case. She's been placed in the jury room next door..." (RR XXIII 108) Counsel and the trial court judge discuss when the best time may be to release Alternate Juror 1 and mention Alternate Juror by First and Last name one time, prior to counsel for the Appellant and Appellee agree to leave the dismissal of Alternate Juror 1 to the courts discretion. (RR XXIII 109)

The morning of February 11, [REDACTED], the both appellant and Appellee were present to discuss a question the jury posed to the court while in deliberation. (RR XXIV 5) Following a brief discussion and a recess the jury had completed their deliberations and were ready to present their verdict. (RR XXIV 5-8) The jury found appellant by unanimous decision guilty of Murder. (RR XXIV 9-11) Following another recess, appellant submits a motion for mistrial, on grounds "that the wrong alternate juror was sat to render verdict." (RR XXIV 12-16) The trial court denied this motion and continued to the punishment phase. (RR XXIV 14)

ANALYSIS

Standard of Review—Error of Incorrect Alternate Juror Serving on Jury

The trial court has discretion to determine whether a juror has become disabled under article 36.29 of the Code of Criminal Procedure and to seat an alternate juror under article 33.011. *Scales v. State*, 380 S.W.3d 780, 783 (Tex. Crim. App. 2012). "[T]he trial court is the sole fact-finder and judge of the credibility of the testifying jurors," and we review its decision for an abuse of discretion. *Id.* at 784. Absent such an abuse of discretion, we will not find reversible error. *Id.* (citing *Brooks v. State*, 990

S.W.2d 278, 286 (Tex. Crim. App. 1999)); *Ponce v. State*, 68 S.W.3d 718, 721 (Tex. App.—Houston [14th Dist.] 2001) (same).

Similarly, we review a trial court's denial of a mistrial for an abuse of discretion, viewing the evidence in the light most favorable to the ruling, and deferring to the court's resolution of historical facts and its determinations concerning credibility and demeanor. *Benefield v. State*, 389 S.W.3d 564, No. 14-11-00452-CR, 2012 Tex. App. LEXIS 9226, 2012 WL 5450717, at 570 (Tex. App.—Houston [14th Dist.] Nov. 8, 2012, no. pet. h.) (citing *Ocon v. State*, 284 S.W.3d 880, 884-85 (Tex. Crim. App. 2009)). We must uphold the trial court's ruling if it is within the zone of reasonable disagreement. *Id.*

Appellant contend that an alternate juror should have been allowed to participate in deliberations and the rendering of a verdict under article 36.29 of the Texas Code of Criminal Procedure, but that the wrong alternate juror was allowed. We look to article 33.011(b) of the Texas Code of Criminal Procedure for the order an alternate juror may be chosen and how alternate jurors may differ, providing:

(b) Alternate jurors in the order in which they are called shall replace jurors who, prior to the time the jury renders a verdict on the guilt or innocence of the defendant and, if applicable, the amount of punishment, become or are found to be unable or disqualified to perform their duties or are found by the court on agreement of the parties to have good cause for not performing their duties. **Alternate jurors shall be drawn and selected in the same manner, shall have the same qualifications, shall be subject to the same examination and challenges, shall take the same oath, and shall have the same functions, powers, facilities, security, and privileges as regular jurors.** An alternate juror who does not replace a regular juror shall be discharged after the jury has rendered a verdict on the guilt or innocence of the defendant and, if applicable, the amount of punishment.

Tex. Code Crim. Proc. Art. 33.011(b) (emphasis added). If error is established, it must also be preserved, as a prerequisite for appellate review.

To preserve error for appellate review, the complaining party must first present to the trial court a timely request, objection, or motion clearly stating the specific factual and legal basis for the ruling that the party seeks. Tex. R. App. P. 33.1(a)(1)(A). Then, the party must fully pursue the matter by either obtaining an adverse ruling from the trial court on the request, objection, or motion, or by objecting to the trial court's refusal to rule on the request, objection, or motion. *Id.* R. 33.1(a)(2). Finally, the point of error on appeal must comport with the objection made at trial. *Thomas v. State*, 723 S.W.2d 696, 700 (Tex. Crim. App. 1986).

If an error is found to have occurred in the trial court and preserved, we shall analyze harm under Texas Rule of Appellate Procedure 44.2(a) if a constitutional error or under Texas Rule of Appellate Procedure 44.2(b) if statutory in nature. *See Scales*, 380 S.W.3d at 780. Texas Rule of Appellate Procedure 44.2 subsection a, and b are read and will be applied as:

(a) Constitutional Error. --If the appellate record in a criminal case reveals constitutional error that is subject to harmless error review, **the court of appeals must reverse a judgment of conviction or punishment unless the court determines beyond a reasonable doubt that the error did not contribute to the conviction or punishment.**

(b) Other Errors. --Any other error, defect, irregularity, or variance that does not affect **substantial rights must be disregarded.**

Tex. R. App. P. 44.2 (emphasis added).

Error of Incorrect Alternate Juror Serving on Jury

If an error occurred under 33.011(b) of the Texas Code of Criminal Procedure for the order an alternate juror may be chosen, we will look to if the error was properly preserved. If properly preserved, we will look to see if error was statutory or constitutional in nature under Texas Rule of Appellate Procedure 44.2, and if harm occurred.

Appellant argues there was an error by the trial court for allowing the wrong alternate juror to participate in deliberations and the rendering of a verdict. Appellee concedes in their brief that the trial court erred under Article 33.011(b) of the Texas Code of Criminal Procedure, and we agree there was an error.

Article 33.011(b) of the Texas Code of Criminal Procedure states Alternate jurors in the order in which they are called shall replace jurors... found to be unable or disqualified to perform their duties. Tex. Code Crim. Proc. Art. 33.011(b).

It is a matter of fact that Alternate Juror 2 partook in deliberations and the rendering of a verdict, and a matter of law that Alternate Juror 2 should have been the one separated and ultimately sent home, not Alternate Juror 1.

Appellant argues, when the error was discovered, appellant moved for a mistrial; this was following the jury verdict, and prior to the punishment phase. To preserve error for appellate review, the complaining party must perform a 3-part test conforming to Rule 33 of the Texas Rules of Appellate Procedure and the point of error on appeal must mirror the objection made at trial. *Wilson v. State*, 71 S.W.3d 346, 349 (Tex. Crim. App. 2002); Tex. R. App. P. 33.1.

First under the 3-part test to preserve error, the appellant must present to the trial court a timely request, objection, or motion clearly stating the specific factual and legal basis for the ruling that the party seeks. Tex. R. App. P. 33.1(a)(1)(A). There was an opportunity to object or move for a mistrial before the jury finished returning its verdict. *Ponce*, 68 S.W.3d at 721. Appellant had from February 10, [REDACTED], when appellant was notified and agreed to send Alternate Juror 1 home and the morning of February 11, [REDACTED] prior to the verdict to submit a motion. An objection and motion for mistrial and request for new trial made after the jury had returned a guilty verdict is not a timely request. *See Jones v. State*, 471 S.W.2d 413, 415 (Tex. Crim. App. 1971) (the appellant waived the right to object to identification by waiting until both the State and the appellant had rested and closed). We conclude

that Appellant waived the error, if any, by waiting to object until after the jury had returned a guilty verdict. *Id.*

Second under the 3-part test to preserve error, appellant must fully pursue the matter by either obtaining an adverse ruling from the trial court on the request, objection, or motion, or by objecting to the trial court's refusal to rule on the request, objection, or motion. Tex. R. App. P. 33.1(a)(2). Appellant received an adverse ruling for the motion for mistrial and request for new trial made on February 11, [REDACTED]. The trial court denied the motion for mistrial on the basis that the jury had just rendered their verdict and stated that a motion for new trial may not be submitted by oral motion but must be written. Article 45.037 of the Texas Code of Criminal Procedure states a motion for a new trial must be made within five days after the rendition of judgment and sentence, and not afterward. Tex. Code Crim. Proc. Art. 45.037.

This motion was submitted by oral motion, and prior to sentence, therefore does not conform with the code. A single written motion for new trial was filed by appellant with the trial court March 18, [REDACTED], past the deadline of 5 days cited in Article 45.037, and this motion did not mention the trial court error for allowing Alternate Juror 2 to participate in deliberations and render a verdict. Tex. Code Crim. Proc. Art. 45.037.

Third under the 3-part test to preserve error, the point of error on appeal must comport with the objection made at trial. *Thomas*, 723 S.W.2d at 700. Appellant's oral motion for mistrial and request for new trial, at trial, mirrors appellants point of error on appeal. Appellants written motion for new trial did not mention the alternate juror point of error. Appellant failed to make a proper objection at trial when appellant orally motioned for mistrial because it was following the jury verdict. Appellant also failed to make a proper objection at trial when appellant orally motioned for the new trial, because it was not submitted to the court in written format and when submitted in written format did not include this issue.

When evaluating if error was constitutional or statutory in nature we hold the error only involved a failure to follow the statutory scheme under Article 33.011, it is not of constitutional dimension. *Jones*, 982 S.W.2d at 391. The issue now becomes whether the error "affected" a substantial right. *Scales*, 380 S.W.3d at 786. Texas Rule of Appellate Procedure 44.2(b) provides that any non-constitutional "error, defect, irregularity, or variance that does not affect substantial rights must be disregarded." Tex. R. App. P. 44.2(b).

"A substantial right is affected when the error had a substantial and injurious effect or influence in determining the jury's verdict." *King v. State*, 953 S.W.2d 266, 271 (Tex. Crim. App. 1997) (citing *Kotteakos v. United States*, 328 U.S. 750, 776, 66 S. Ct. 1239, 1557 (1946)). The alternate was placed on the jury before it retired, and had the same functions and powers as any other juror. *Ponce*, 68 S.W.3d at 722. Thus, there is no merit in the contention the jury did not fulfill the constitutional function of a twelve-person jury. *Id.* Appellant waived the error by failing to timely object, and there was no more harmful effect than if the excused juror had been ill or disabled before the court's charge. *Id.*

Standard of Review—Instruction on the Lesser Included Offense of Manslaughter

A claim of jury charge error is reviewed under the procedure set out by the Court of Criminal Appeals in *Almanza v. State*. *Almanza v. State*, 686 S.W.2d 157, 171 (Tex. Crim. App. 1985); *Barrios v. State*, 283 S.W.3d 348 (Tex. Crim. App. 2009). Pursuant to the Court's analysis of Article 36.19 of the Texas code of Criminal Procedure, if there is error in the jury charge and appellant objected to the error at trial, reversal is required if the error "is calculated to injure the rights of the defendant," which has been defined to mean that there is "some harm." *Id.*; Tex. Code Crim. Proc. Art. 36.19.

Instruction on the Lesser Included Offense of Manslaughter

Determining whether a defendant is entitled to a lesser-included-offense instruction requires a two-part *Royster-Rousseau* analysis. *Goad v. State*, 354 S.W.3d 443, 446 (Tex. Crim. App. 2011); *see generally Royster v. State*, 622 S.W.2d 442, 446 (Tex. Crim. App. 1981); *see generally Rousseau v. State*, 885 S.W.2d 666 (Tex. Crim. App. 1993). We first consider whether the offense contained in the requested instruction is a lesser-included offense of the charged offense. *Rice v. State*, 333 S.W.3d 140, 144 (Tex. Crim. App. 2011); *Hall v. State*, 225 S.W.3d 524, 535 (Tex. Crim. App. 2007). If so, we must decide whether the admitted evidence supports the instruction. *Aguilar v. State*, 682 S.W.2d 556, 558 (Tex. Crim. App. 1985); *Day v. State*, 532 S.W.2d 302, 304-06 (Tex. Crim. App. 1975).

Appellant was charged for murder under §19.02(B)(2) that reads: A person commits an offense if he: (2) intends to cause serious bodily injury and commits an act clearly dangerous to human life that causes the death of an individual. Tex. Penal Code § 19.02(b)(2). The lesser included offense of Manslaughter under section 19.04 is: recklessly causes the death of an individual. Tex. Penal Code § 19.04(b).

Appellee agrees that the first prong of the *Royster-Rousseau* lesser-included-offense-instruction test, manslaughter, is legally a lesser-included offense of murder, as charged in count two of the indictment. Compare Tex. Penal Code § 19.02(b)(2) with Tex. Penal Code § 19.04(a); *see Cavazos v. State*, 382 S.W.3d 377, 383-84 (Tex. Crim. App. 2012) (holding that manslaughter is a lesser-included offense of murder, as charged under Penal Code Section 19.02(b)(2), because “causing death while consciously disregarding a risk that death will occur differs from intending to cause serious bodily injury with a resulting death only in the respect that a less culpable mental state establishes its commission.”); *see Tex. Code Crim. Proc. Art. 37.09(3)* (establishing that an offense is a lesser-included offense of another crime

if it differs from the charged crime only in the respect that a less culpable mental state is sufficient to establish the lesser offense).

Appellant argues the evidence admitted at trial, presents a mental state that could be either intentional, knowing or reckless, therefore a jury charge of the lesser included offense of manslaughter should've been admitted.

Under the second prong of the *Royster-Rousseau* test, we must consider whether there was some evidence raised at trial from which a rational jury could acquit appellant of the greater offense of murder and convict him of the lesser-included offense of manslaughter. *Cavazos*, 382 S.W.3d at 385. The evidence must still be directly germane to the lesser-included offense and must rise to a level that a rational jury could find that if appellant is guilty, he is guilty only of the lesser-included offense. *Id.* Meeting this threshold requires more than mere speculation—it requires affirmative evidence that both raises the lesser-included offense and rebuts or negates an element of the greater offense. *Id.* Therefore the facts must point to a culpable mental state defined under Penal Code § 6.03(c) for recklessness such instruction:

A person acts recklessly, or is reckless, with respect to circumstances surrounding his conduct or the result of his conduct when he is aware of but consciously disregards a substantial and unjustifiable risk that the circumstances exist or the result will occur. The risk must be of such a nature and degree that its disregard constitutes a gross deviation from the standard of care that an ordinary person would exercise under all the circumstances as viewed from the actor's standpoint.

Tex. Penal Code § 6.03(c).

Appellant argues the only evidence that the state had pointing to appellant as the shooter derive from [REDACTED]'s testimony that stating when he asked appellant what happened that appellant responded “I don’t know; I just started shooting.” We consider all the evidence admitted at trial, not just the evidence presented by the defendant. *Goad*, 354 S.W.3d at 446. We also look to the evidence that four casings were found at the

murder scene, and one casing in appellants vehicle, all determined to be fired by the same gun. Establishing a minimum of 5 shots, were fired at [REDACTED] [REDACTED] [REDACTED] and [REDACTED].

The trial denied the instruction of manslaughter after reviewing case law, and stated no further reasoning, showing the trial court did not see any evidence directly germane to recklessness. We agree. The pulling out of a gun, pointing it at a car with known passengers, pulling the trigger five times, fleeing the scene and stating to a friend “I don’t know; I just started shooting” does not rationally support an inference appellant acted recklessly.

Appellant failed to meet the second prong for the *Royster-Rousseau* test because there is no evidence that would permit a rational jury to find that if appellant is guilty, he is only guilty of the lesser included offense.